

# ABSTRACT OF THE DISCLOSURE

An MEA is made by: preparing a mixture of a polymer electrolyte and a catalyst; forming, on a transfer sheet, a thin film of the catalyst mixture; transferring the thin film onto one surface of a proton conductive electrolyte membrane for forming a catalyst thin film layer thereon; and repeating the transferring step for forming plural catalyst thin film layers, wherein the transferring steps causes the plural catalyst thin film layers to have a density gradient of sequentially decreasing from its proton conductive electrolyte membrane side to the other side, and wherein the catalyst layer has therein a substantially constant weight ratio of the polymer electrolyte to the catalyst.

Thereby, the utilization rate of the catalyst increases, and the fuel diffusion in the catalyst layer is improved, whereby the resultant cell voltage of the fuel cell increases. Further, using a single catalyst paste, a desired density gradient or distribution in the catalyst layer can be realized.